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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/738,465	12/17/2003	Scott Sibbett	P15123	9547

7590 10/18/2006

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EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/738,465

Applicant(s)

SIBBETT, SCOTT

Examiner

Krishnan S. Menon

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 32 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-13 and 32 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-13 and 32 are pending as amended 10/10/06

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4 and 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsey et al (US 2005/0103713).

This reference has a US filing date of July 30, 2004, with a priority date of July 30, 2003 to a provisional application, which is accessible through PAIR. The date of the provisional application is a 102(e) date.

Ramsey teaches an apparatus comprising first and second substrates stacked together, the substrates having open channels that are misaligned to one-another forming communications points as claimed; channels are parallel, and equidistant, and made of silicon – see figure 17 and paragraph 49, 31, 34, etc. Channel dimensions in nm – see paragraph 40. Side panels 116, the third and fourth substrates, are shown in figure 18A-C. Material 'quartz': the reference uses SiO₂; quartz is SiO₂, oxide of silica.

Ramsey does not teach the number of channels in the substrate. However, the number of channels would depend on the functional requirements such as the number

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of samples to be treated, etc, and can be optimized. Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

The number of channels also would be only a relative dimensional difference. Also, In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (The court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.).

2. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsey as applied to claims 1 above and further in view WO 96/12541.

Claim 12 differs from the material of the third and fourth substrates, silicon oxynitride. Ramsey teaches the various layers as of different materials and the side panels 116 as being deposited, and WO'541 teaches depositing silicon oxynitride (page

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14 line 20). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of WO in the teaching of Ramsey to have the layers 116 made of silicon oxynitride for deposition because Ramsey does not specify the material for deposition.

With respect to claim 13, the angle between the channels of the first and second substrate is also only a dimensional issue. In re Gardner, etc. In addition, WO teaches various patterns for the channel intersections, in a similar multilayer, multi-channel device (see figure 13). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of WO'451 in the teaching of Ramsey because of the benefits afforded by the design of WO'451 (page 21, second paragraph).

3. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsey as applied to claim 1 above, and further in view of Swedberg et al (US 5,571,410).

The claim differ from the teaching of Ramsey in the recitation of the electrode. However, using electrodes for sample transport and detection is known in the art as taught by Swedberg; one would use the teaching of Swedberg in the teaching of Ramsey for providing the motive force or a a detector as taught by Swedberg (column 8 lines 37-67)

Response to Arguments


Applicant's arguments filed 10/10/06 have been fully considered but they are not persuasive with respect to the Ramsey reference. A response to the argument is included in the rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


10/14/06
Krishnan S Menon
Primary Examiner
Art Unit 1723